



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

characters that give the posterior half of the valves much the appearance of some types of *Trigonia*.

*Locality and position.*—Found by Mr. Green, of the Illinois Survey, in Warren County, Illinois, in a black bituminous limestone near the base of the Coal-measure, associated with *Lima retifera*, and *Cardiomorpha Missouriensis*, Shumard, *Aviculopecten ? carbonarius*, Stevens, sp., (= *Pecten Broadheadii*, Swallow, = *P. Hawni*, Gein.), *Spiriferina Kentuckensis*, Shumard, *Chonetes mesoloba*, N. & P., *Schizodus curtus*, M. & W., and various other species, many of which have been generally, until recently, supposed to be mainly confined to the upper part of the Coal-measures.\* Mr. Broadhead also found it associated with many of the same fossils near the upper part of the Coal-measures in Fayette county, Illinois.

---

August 3d.

The President, DR. HAYS, in the Chair.

Twelve members present.

---

August 10th.

The President, DR. HAYS, in the Chair.

Eighteen members present.

---

August 17th.

The President, DR. HAYS, in the Chair.

Sixteen members present.

On motion, it was resolved, that the Academy take part in the Centennial Anniversary of Humboldt's Birthday, to be held on the 13th and 14th of September. Dr. H. C. Wood, Jr., was appointed by the Academy as orator, to deliver an address on the occasion.

The following paper was offered for publication: "On Brevoortia," by Alphonzo Wood.

---

August 31st.

DR. MAYBERRY, in the Chair.

Eighteen members present.

---

\* I have also been interested to see amongst the Illinois State Collections from the shale associated with the coal-bed at Danville, in that State, a new type of bivalves I had never before seen from any other locality than Nebraska City, Nebraska, where it occurs in the Upper Coal-measure beds referred by Prof. Marcou to the horizon of the Permian. It is a small, smooth, compressed, elongated, equivalve bivalve, with nearly parallel, straight upper and lower margins, and a distinct, rather large rectangular notch in the anterior ventral margin, forming a hiatus similar to that seen in the genus *Xylophaga*, though it evidently has no relations to that group, but seems to be allied to the *Solenidae*. In Dr. Hayden's report on the Geology of Nebraska, I have proposed for this genus the name *Prothyris*.

From the same bed at Danville, Ill., I have likewise seen in the State Collection, specimens of Prof. Geinitz's Nebraska species *Gervillia longa*, one of which shows the hinge to have none of the characters of *Gervillia* or *Bakevellia*, since it has no trace of the row of cartilage pits characterizing those genera. On the contrary, it seems to agree well in its hinge characters with the genus *Avicula*.

F. B. MEEK.

[August,

The following gentlemen were elected members :

Dr. John C. Spear, U. S. N. ; Jas. Lanman Harmar ; Dr. Fausto E. Rendon.

The following were elected Correspondents :

Prof. A. Kolliker, of Wurzburg, and N. H. Bishop.

The Committee to which was referred the paper by Alphonzo Wood, entitled "On Brevoortia," reported in favor of its publication in the Journal.

On favorable report of the Committee, the following papers were ordered to be published :

#### The Auroral Display of April 15, 1869.

BY J. ENNIS.

This auroral display was the brightest that has appeared at Philadelphia since the memorable one on the evening of August 28, 1859. On both these occasions the light was most beautiful and striking, and during the interval between the two no display occurred at all to be compared to these in brightness, in beauty, in variety of coloring, and in general grandeur and magnificence of view. They both began just as the twilight was dying away. The former slightly exceeded in gorgeous coloring, and the latter in duration, for it continued to be still strikingly grand until after midnight. On both occasions the chief colors were pale rose and pale green, but though pale in tint they were very bright, clear and impressive.

The cause of the aurora borealis is generally admitted to be the passage of electricity from the northern region of the globe toward the south. This passage I suppose to be CONSTANT, and in THREE DIFFERENT PATHS: the lower, through the surface of the earth; the middle, along the top of the atmosphere; and the higher, along what are called the magnetic curves; the earth being considered as a great magnet, with the poles north and south.

The lower path becomes evident by studying the disturbances of the magnetic needle. Mr. Charles V. Walker came to the conclusion, from magnetic irregularities, that over the south-eastern portion of the New England States there is a stream of electricity of indefinite width drifting across the country, moving to and fro in a line from N. 42 E. to S. 42 W.\* Professor Loomis, of Yale College, in discussing the great auroral display of 1859, says he found similar magnetic disturbances over the continent of Europe, and that they are propagated in a direction from N. 28 E. to S. 28 W. He intimates that perhaps more observations would show the directions in Europe and America to be the same.† Probably the electric currents on both continents would be found floating more nearly north and south. All the facts of these magnetic disturbances coincide with the idea that the electric stream is through the earth's surface, the actual position of the magnets irregularly deflected.

The necessity for such a current through the earth's surface southwardly becomes evident from the fact that the solid portion of the globe is constantly robbing the atmosphere of its electricity. We behold the tendency of this fluid to come down in a thunder shower; and sometimes, though rarely, the thunder and lightning will fall from a cloud without any rain. I know an instance, witnessed by several credible persons in the north-eastern part of New Jersey, where a lightning stroke, with a loud report, and without any rain, fell from a small summer cloud and struck one of the cattle in the field, which had a bell at its neck. The solder of the bell was partly melted, and the animal was killed. In all ordinary good weather, the higher we ascend in the air the more strongly do we find it charged with electricity. The under

\* Amer. Journ. Sci. and Arts, vol. 32, p. 326.

† Ibid, p. 334.